Amendments to the Claims

IN THE CLAIMS:

Please cancel claims 6 - 7 without prejudice or disclaimer.

Please amend claims 1-3, 5, 12-14, 16, 21, 23, 25-30 as follows:

1. (Currently Amended) A method for enhancing the performance of an imaging device, comprising the steps of:

(1)   receiving two or more ~~first and second~~ input pixels representative of ~~having~~ an initial intensity value, the two or more ~~first and second~~ input pixels being obtained by an imager having a fixed focal length;

(2)   forming two or more intermediate intensity values, each (i) respectively corresponding to one of the two or more input pixels and (ii) being based upon a respective one or more weighting factors ~~a first intermediate intensity value from the first input pixel based on the initial intensity value of the first input pixel and the value of a first weighting factor;~~

~~(3)   forming a second intermediate intensity value from the second input pixel based on the initial intensity value of the second input pixel and the value of a second weighting factor;~~ and

~~(4)~~ (3) combining the two or more ~~first and second~~ intermediate intensity values to form an output pixel.

2. (Currently Amended) The method of claim 1, wherein step (1) comprises the step of:

receiving a group of input pixels to be used in forming the output pixel of step (3) ~~(4)~~.

3. (Currently Amended) The method of claim 2, wherein step (3) (4) comprises the step of:

combining one intermediate intensity value formed from each input pixel of the group to form the output pixel.

4. (Original) The method of claim 3, wherein step (1) comprises the step of:

receiving a group of at least sixteen input pixels.

5. (Currently Amended) The method of claim 3, wherein step (3) (4) comprises the step of:

forming at least eight output pixels.

6. (Cancelled)

7. (Cancelled)

8. (Original) The method of claim 1, further comprising the step of:

selecting the first and second weighting factors in accordance with an interpolation function.

9. (Original) The method of claim 1, further comprising the step of:

selecting the first and second weighting factors in accordance with a cubic B-spline function.

10. (Original) The method of claim 1, further comprising the step of:

selecting the first and second weighting factors in accordance with an nth-order spline function.

11. (Original) The method of claim 1, further comprising the step of:

selecting the first and second weighting factors in accordance with a sinc

function.

12. (Currently Amended) The method of claim 8, wherein step (3) (4) comprises

the step of:

forming a number of output pixels that is less than the number of input pixels

received in step (1).

13. (Currently Amended) The method of claim 12, wherein step (3) (4)

comprises the step of:

selecting the number of output pixels formed based on a distance between the

imager and an object.

14. (Currently Amended) The method of claim 12, wherein step (3) (4)

comprises the step of:

dynamically adjusting the number of output pixels formed based on a change in

distance between the imager and an object.

15. (Original) The method of claim 12, wherein step (1) comprises the step of:

low-pass filtering the input pixels.

16. (Currently Amended) A system for enhancing the performance of an imaging

device having a fixed focal length, comprising:

a pixel receiving module to receive and temporarily store two or more input

pixels obtained by an imager;

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a pixel weighting module coupled to said pixel receiving module for forming <u>two</u> <u>or more</u> intermediate intensity values based on weighting <u>factors</u> ~~values~~ and intensity values of <u>the two more</u> pixels stored in said pixel receiving module<u>, each of the two or more intermediate intensity values (i) respectively corresponding to one of the two or more input pixels and (ii) being based upon a respective one or more of the weighting factors</u>; and

a pixel combining module coupled to said pixel weighting module for forming output pixels based on the <u>two or more</u> intermediate intensity values formed by said pixel weighting module.

17. (Original) The system of claim 16, wherein said pixel receiving module is a buffer capable of receiving and temporarily storing a predetermined number of pixels.

18. (Original) The system of claim 17, wherein said pixel weighting module comprises:

a plurality of weighting cells coupled to said buffer, wherein each of said plurality of weighting cells receives at least two inputs, one input comprising a pixel intensity value from said buffer and one input comprising a weighting value, and wherein each of said plurality of weighting cells combines the at least two inputs to form an intermediate intensity value.

19. (Original) The system of claim 18, wherein the number of output pixels formed by said pixel combining module is selected based on a distance between the imager and an object.

20. (Original) The system of claim 18, wherein the number of output pixels formed by said pixel combining module is dynamically adjusted based on a change in distance between the imager and an object.

21. (Currently Amended) A method for transforming image resolution, comprising the steps of:

(1)   retrieving an image having an initial resolution from a memory, the image comprising two or more original pixels representative of a first and second original pixel having an initial intensity value;

(2)   forming two or more intermediate intensity values, each (i) respectively corresponding to one of the two or more input pixels and (ii) being based upon a respective one or more weighting factors a first intermediate intensity value from the first original pixel based on the initial intensity value of the first original pixel and the value of a first weighting factor;

(3)   forming a second intermediate intensity value from the second original pixel based on the initial intensity value of the second original pixel and the value of a second weighting factor;

(4) (3) combining the two or more first and second intermediate intensity values to form an interpolated pixel; and

(5) (4) repeating steps (2) through (3) (4) for additional pixels of the image to form a copy of the image having a resolution that is different than the initial resolution.

22. (Original) The method of claim 21, wherein step (1) comprises the step of: retrieving the image from a network server used to store images.

23. (Currently Amended) The method of claim 21, wherein step (1) comprises the step of:

receiving a group of original pixels to be used in forming the interpolated pixel of step (3) (4).

24. (Original) The method of claim 23, wherein step (1) comprises the step of:

low-pass filtering the original pixels.

25. (Currently Amended) The method of claim 23, wherein step (3) (4) comprises the step of:

combining one intermediate intensity value formed from each original pixel of the group to form the interpolated pixel.

26. (Currently Amended) The method of claim 21, further comprising the step of:

(5) (6) selecting the weighting factors of step steps (2) and (3) in accordance with an interpolation function.

27. (Currently Amended) The method of claim 21, wherein step (5) (6) comprises the step of:

using a cubic B-spline function to select the weighting factors.

28. (Currently Amended) The method of claim 21, wherein step (5) (6) comprises the step of:

using an nth-order spline function to select the weighting factors.

29. (Currently Amended) The method of claim 21, wherein step (5) (6)

comprises the step of:

using a sinc function to select the weighting factors.

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30. (Currently Amended) The method of claim 21, wherein step (4) (5)

comprises the step of:

forming a copy of the image having a resolution that is determined based on a

requester's access rights.